IP Eye Anywhere 470

Low Lux MPEG4/MJPEG Dome Network Camera

ADVANCED INSTALLATION GUIDE

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PREFACE

Thank you for purchasing the IPEyeAnywhere470, a standalone system that can be connected directly to an Ethernet or Fast Ethernet network.

The camera features the latest Motion JPEG and MPEG-4 image technology, advanced management functionality, and GPIO connectors (e.g. connecting to the door sensors or alarm bells), allowing you to record streaming video (Motion JPEG or MPEG-4), enable motion detection, and setup automated FTP/Email/ Network Storage service for security.

The audio function (connected external microphone and audio-out device like the active speaker) of the camera allows you to deliver/receive sound to/from the camera. In addition, the superior lens and hardware design enable the camera to capture high quality images even in the low-lux condition.

Compared to the conventional PC Camera, the IPEyeAnywhere camera features a built-in CPU and Web-based solutions that can provide a cost-effective solution to transmit the real-time high-quality video images and sounds synchronously for monitoring. The camera can be managed remotely, so that you can use a Web browser to access and control it from any desktop/notebook computer over the Intranet or Internet.

The simple and versatile installation allows you to integrate it into your network environment easily. With comprehensive applications supported, the camera is your best solution for demanding surveillance and remote monitoring applications.

This *Advanced Installation Guide* provides you with the instructions and illustrations on how to use your camera, which includes:

Chapter 1 **Introduction to Your IPEyeAnywhere Camera** describes the features of the camera. You will also know the components and functions of the camera.

Chapter 2 **Hardware Installation** helps you install the camera according to your application environment. You can use this camera at home, at work, at any where you want.

Chapter 3 **Accessing the IPEyeAnywhere Camera** lets you start using your camera without problem. The camera can be set up easily and work within your network environment instantly.

Chapter 4 **Configuring the IPEyeAnywhere Camera** guides you through the configuration of the camera using the Web browser on your PC.

Appendix Provides the specification of the camera and some useful information for using your camera.

NOTE The illustrations and configuration values in this guide are for reference only. The actual settings depend on your practical application of the camera.

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SAFETY WARNINGS

o To prevent short circuits, this product should only be used inside and only in dry spaces.
Do not expose the components to rain or moisture. Do not use the product close to a bath, swimming pool etc.
o Do not expose the components of your systems to extremely high temperatures or bright light sources.
o In case of improper usage or if you have altered and repaired the product yourself, all guarantees expire. Marmitek does not accept responsibility in the case of improper usage of the product or when the product is used for purposes other than specified. Marmitek does not accept responsibility for additional damage other than covered by the legal product responsibility.
o This product is not a toy. Keep out of reach of children.
o Do not open the product: the device may contain live parts. The product should only be repaired or serviced by a qualified expert.
o Only connect the adapter to the mains after checking whether the mains voltage is the same as the values on the identification tags. Never connect an adapter when it is damaged. In that case, contact your supplier.

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CHAPTER 1

INTRODUCTION TO YOUR CAMERA

1.1 Checking the Package Contents

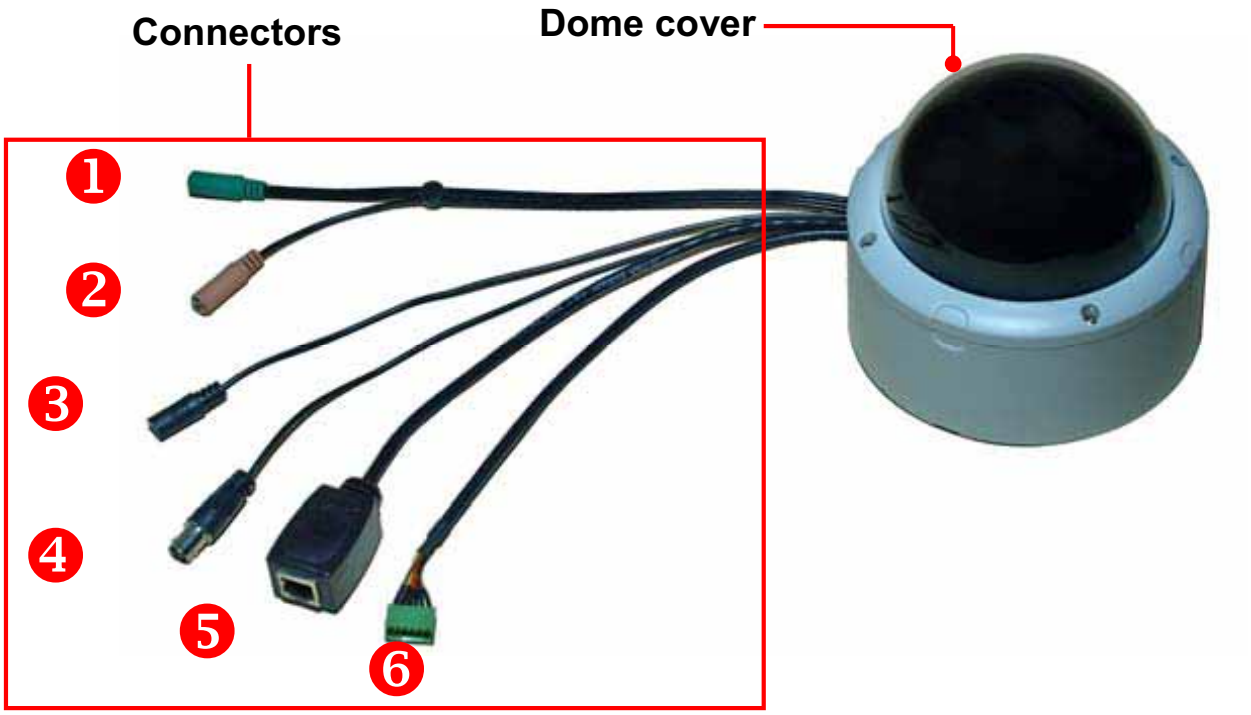
Check the items contained in the package carefully. You should have the following:

- ☑ One IPEyeAnywhere470
- ☑ One Power Adapter
- ☑ One screw pack and drill template
- ☑ One Ethernet Cable (RJ-45 type)
- ☑ One Terminal Block Connector
- ☑ One Installation Wizard CD
- ☑ One *Quick Installation Guide*

NOTE Once any item contained is damaged or missing, contact the authorized dealer of your locale.

1.2 Getting to Know Your Camera

■ Physical Components



- **Connectors**

  1. **Audio Out:** Connects an external audio device (such as the active speaker) to deliver sound via the camera.
  2. **Mic In:** Connects an external microphone to receive the on-the-spot sound where the camera is installed.
  3. **Power:** Connects the power adapter to supply power to the camera.
  4. **TV Out:** The BNC connector is used to connect the composite video input of external video device.

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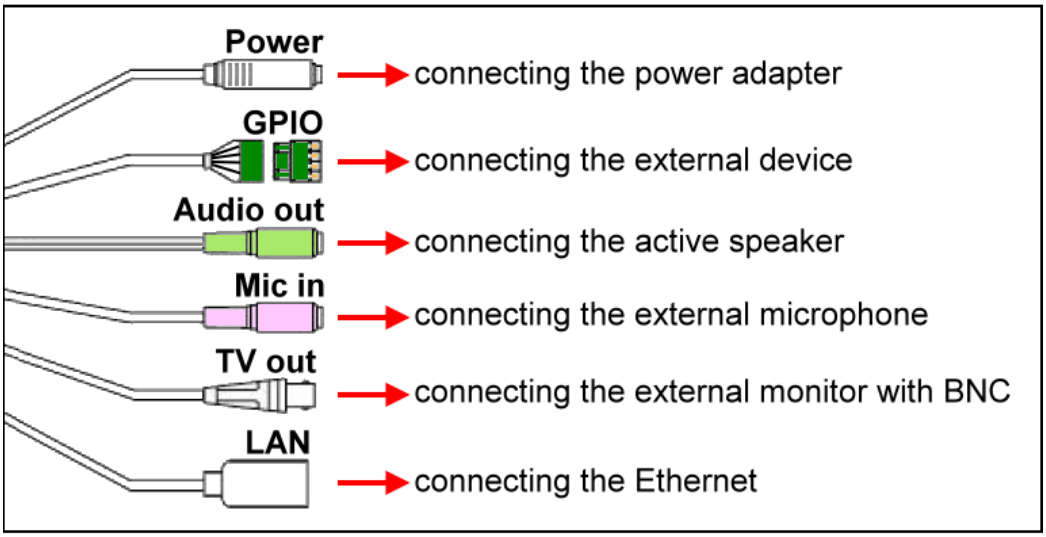
❺ **LAN:** Plugs the provided Ethernet cable to connect to your local area network (LAN). The LAN port of the camera supports the NWay protocol so that the camera can detect the network speed automatically.

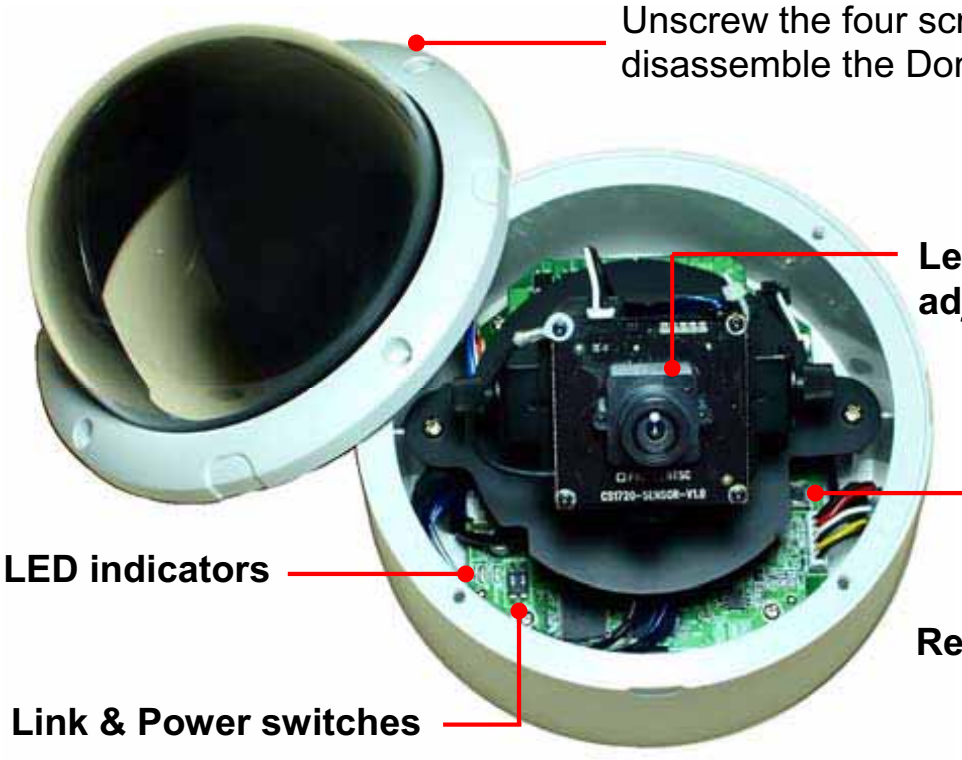
❻ **GPIO:** Connects the external device that features additional controlling function, such as motion detection, event triggering, alarm notification, and a variety of external control functions.

Before connecting the external device for GPIO function, you have to attach the provided external GPIO connectors to the device.

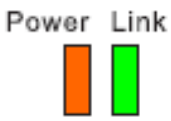
Connecting Cables



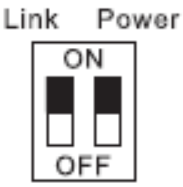
■ Inside Components


Unscrew the four screws to disassemble the Dome cover.
Lens with the adjustable base
LED indicators
Reset button
Link & Power switches

- **Reset button:** Press the button to restart the camera. Press and hold the button for five seconds, the camera will resume the factory default settings.
- **LED indicators**



  - **Power** indicates the camera is powered on with the steady amber light.
  - **Link** indicates the camera's network connectivity with the flashing green light.
- **Link & Power switches:**



The two switches allow you to turn off the LED indicators manually.

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1.3 Features and Benefits

- **MPEG4/MJPEG Dual-codec Supported**

  The camera provides you with excellent images by the MPEG4/MJPEG dual-codec selectable technology, allowing you to adjust image size and quality, and bit rate according to the networking environment.

- **Flexible Audio Capability**

  The camera allows you to connect the external microphone to receive on-the-spot audio via the Internet, allowing you to monitor the on-site voice. In addition, you can connect an external active speaker to the camera to speak through the camera (supporting mono audio only).

- **Supports RTSP**

  The camera supports RTSP (Real Time Streaming Protocol), which is a technology that allows you to view streaming media via the network. You can view the real-time video with the Quick Time player or RealPlayer. To view the real-time streaming image on your computer, open the Web browser and enter the RTSP link:
  rtsp://(IP address of the camera)/mpeg4.

- **Remote Control Supported**

  By using a standard Web browser or the bundled UltraView software application, the administrator can easily change the configuration of the camera via Intranet or Internet. In addition, the camera can be upgraded remotely when a new firmware is available. The users are also allowed to monitor the image and take snapshots via the network.

- **I/O Connectors Supported**

  The I/O connectors (2-in/1-out) of the camera provide the physical interface to send and receive digital signals to a variety of external alarm devices. You can configure the settings and control the device from the **GPIO Trigger** setting of Web Configuration.

- **Multiple Platforms Supported**

  The camera supports multiple network protocols, including TCP/IP, SMTP e-mail, HTTP, and other Internet related protocols. Therefore, you can use the camera in a mixed operating system environment, such as Windows 2000 and Windows XP.

- **Multiple Profiles Supported**

  The camera supports multiple profiles simultaneously, so that you can separately set up different image settings (such as image quality and frame rate) for the three video types of the camera: MPEG4, MJPEG, and 3GPP.

- **Multiple Applications Supported**

  Through the remote access technology, you can use the cameras to monitor various objects and places for your own purposes. For example, babies at home, patients in the hospital, offices and banks, and more. The camera can capture both still images and video clips, so that you can keep the archives and restore them at any time.

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1.4 System Requirement

- **Networking**
  - **LAN:** 10Base-T Ethernet or 100Base-TX Fast Ethernet.

- **Accessing the Camera using UltraView**
  - **Platform:** Microsoft® Windows® 2000/XP/Vista/7.

- **Accessing the Camera using Web Browser**
  - **Platform:** Microsoft® Windows® 2000/XP/Vista/7.
  - **CPU:** Intel Pentium III 800MHz or above
  - **RAM:** 512MB
  - **Resolution:** 800x600 or above
  - **User Interface:** Microsoft® Internet Explorer 6.0 or above
    Mozilla Firefox 2.00 or above
    Apple Safari 2 or above

  - **Hardware Requirement**
  - **Resolution:** 1024x768 or above
  - **1 camera:** Intel Pentium III 800MHz; 512MB RAM
  - **2 ~ 4 cameras:** Intel Pentium 4 1.3GHz; 512MB RAM
  - **5 ~ 8 cameras:** Intel Pentium 4 2.4GHz; 1GB RAM
  - **9 ~ 16 cameras:** Intel Pentium 4 3.4GHz; 2GB RAM

NOTE If you connect multiple cameras within the network to monitor various places simultaneously, you are recommended to use a PC with higher performance.

CHAPTER 2

HARDWARE INSTALLATION

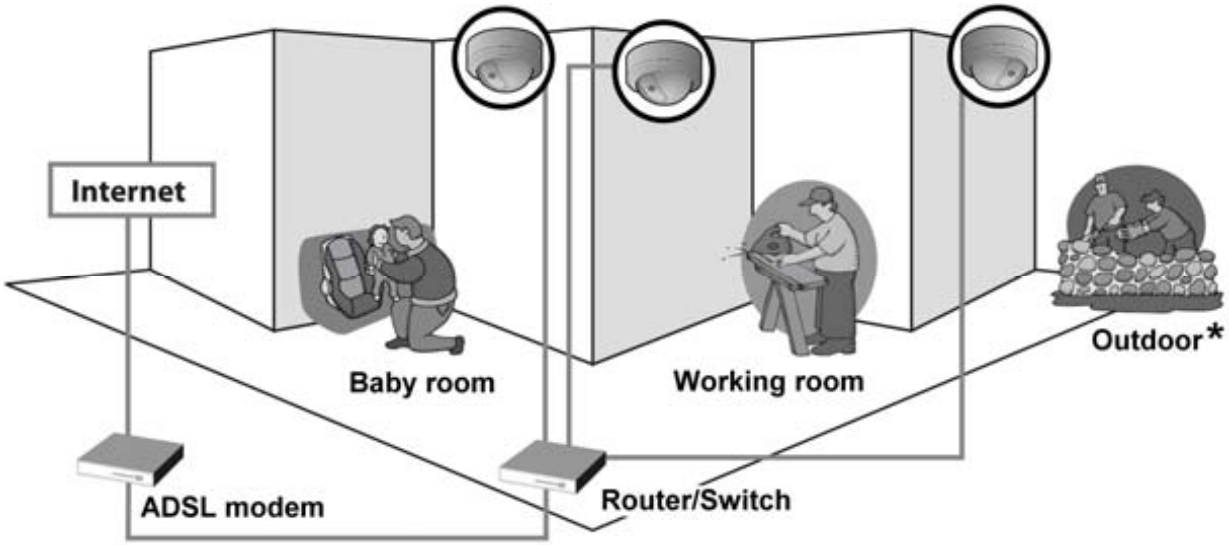
2.1 Applications of the Camera

The camera can be applied in multiple applications, including:

- Monitor local and remote places and objects via Internet or Intranet.
- Capture still images and video clips remotely.
- Upload images or send email messages with the still images attached.

The following diagram explains one of the typical applications for your cameras and provides a basic example for installing the cameras.

Cameras within Your Network



* Please enclosed by waterproof housing when using in outdoor

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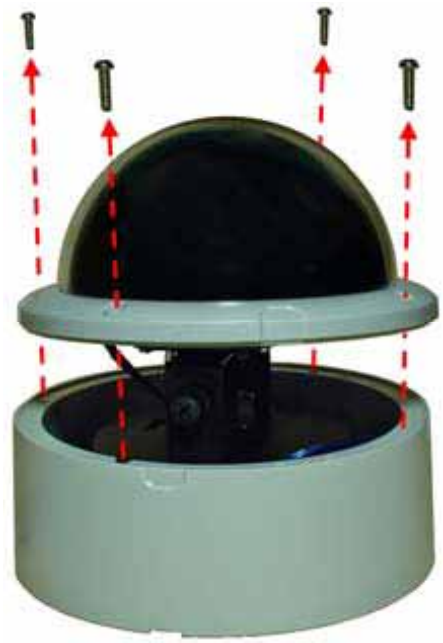
2.2 Installing the IPEyeAnywhere Camera

■ Basic Installation (Surface)

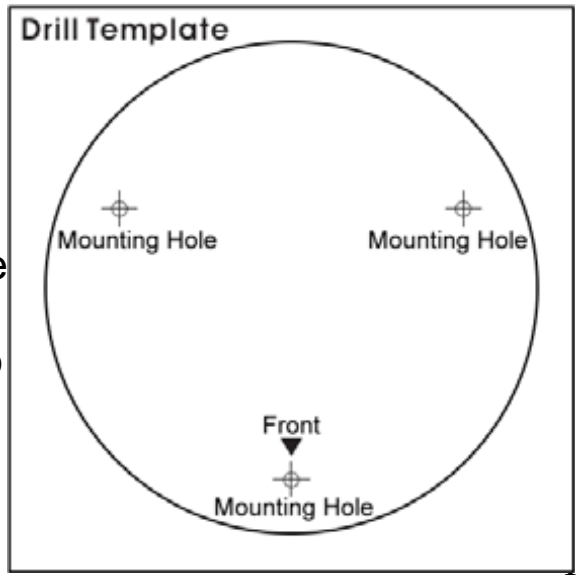
The camera can be mounted to the ceiling surface directly by the following steps:

1. Remove the Dome cover by unscrewing four screws.

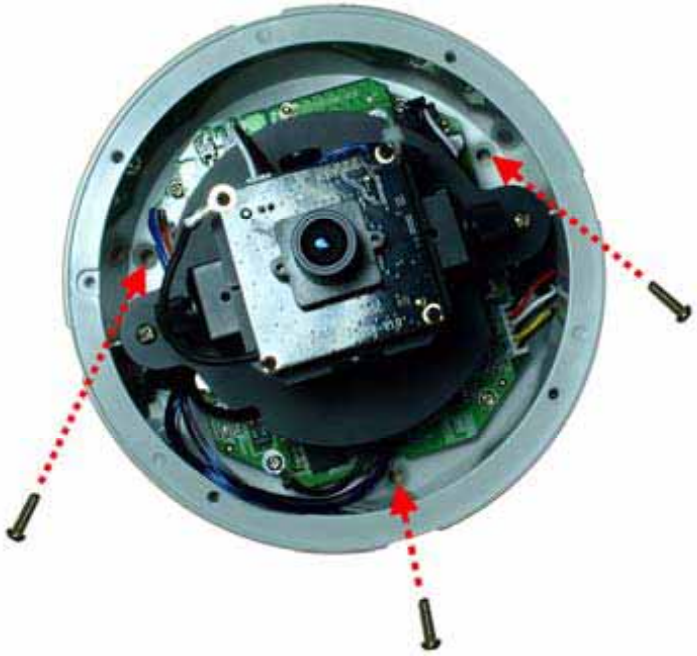


2. Drill three mounting holes into the ceiling and hammer the plastic anchors into the holes.

You can drill the three mounting holes precisely with the provided drill template. Put the drill template on the location where you want to install the camera, and then drill the mounting holes according to the marked position on the drill template.

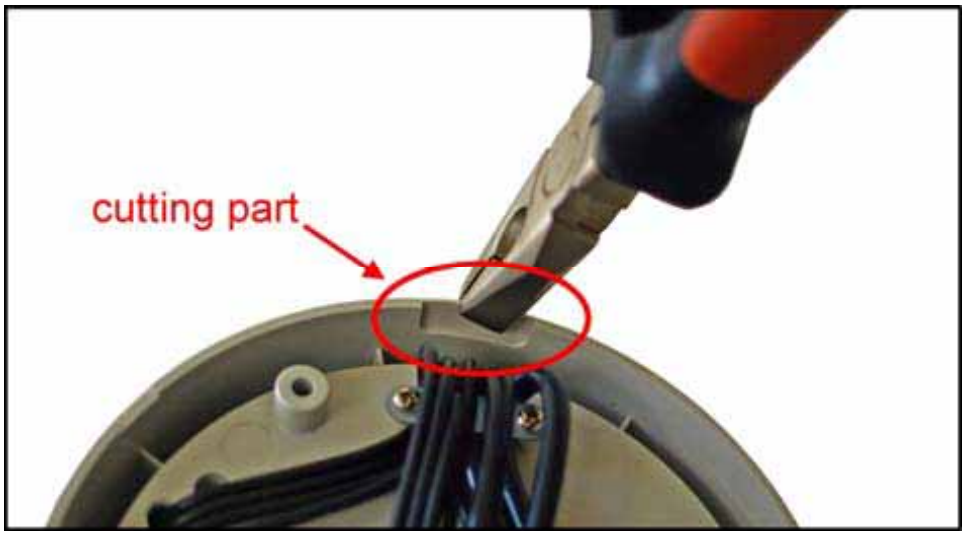


3. Install the camera to the ceiling with three screws.



4. Make connections according to your needs (refer to the illustration of connecting cables on page 6).

TIP Before mounting the camera to the ceiling surface, you can cut the cutting part on the bottom of the camera's side panel by using the pliers, so that the camera can be fitted perfectly on the ceiling and the cables can be arranged through the opening.



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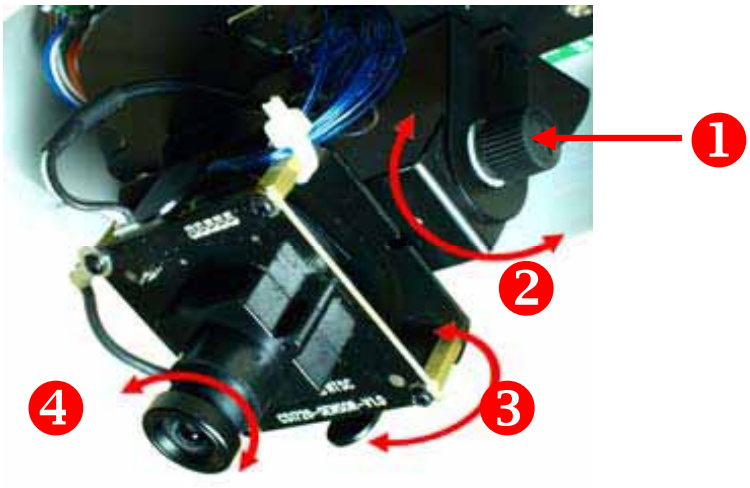
5. To capture the desired image, you can:

   - Tilt the camera lens to a proper position by loosing the screws (❶) and then swinging the adjustable base (❷).
   - Rotate the camera lens by turning the base pedestal (❸) in either clockwise or anti-clockwise direction.
   - Adjust the lens focus by turning the lens ring slowly (❹) in either clockwise or anti-clockwise direction.



NOTE You can review the image quality from the Web browser when you complete the installation. If the image quality is poor, you have to disassemble the Dome cover to adjust the lens focus until the desired image appears clearly.

6. Replace the Dome cover and secure with four screws.

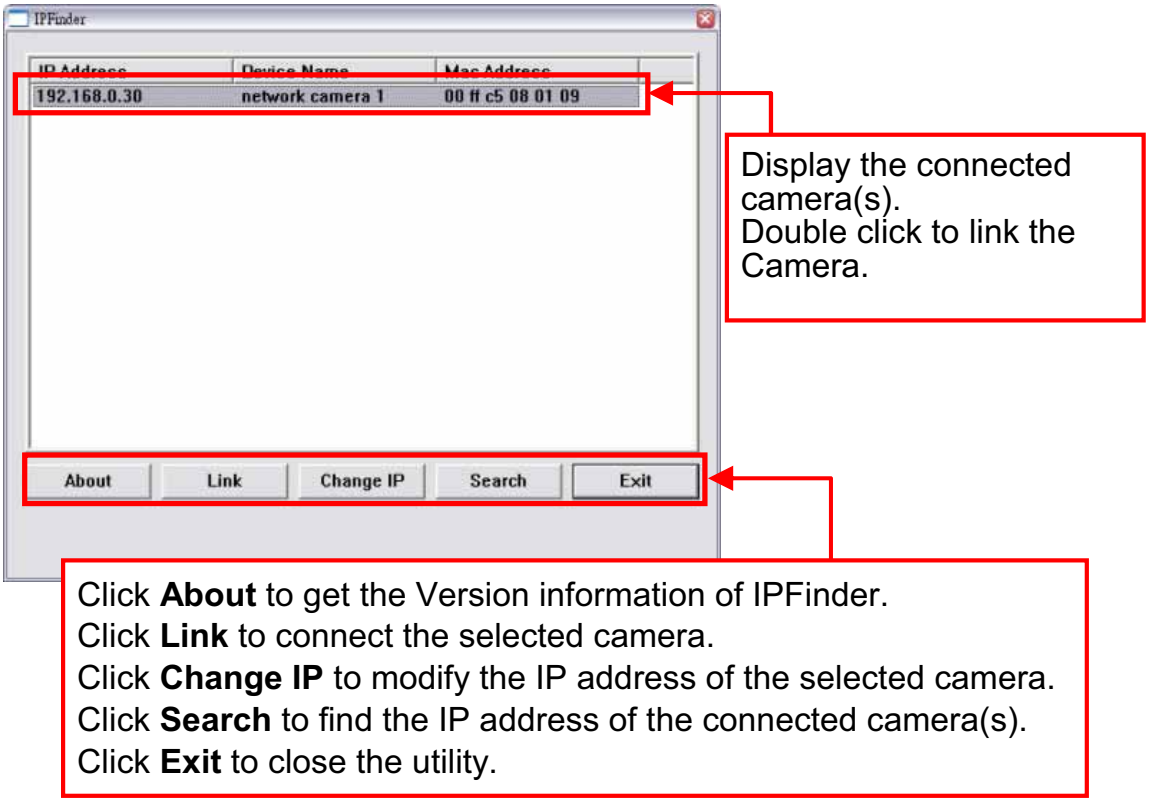
CHAPTER 3

ACCESSING THE IPEYEANYWHERE CAMERA

3.1 Using IPFinder

The camera comes with a conveniently utility, IPFinder, which is included in the Installation CD-ROM, allowing you to search the camera on your network easily.

1. Insert the Installation CD-ROM into your computer's CD-ROM drive to initiate the Auto-Run program.
2. Click the **IPFinder** item to launch the utility. The control panel will appear as below.


IPFinder
IP Address
Device Name
Mac Address
192.168.0.30
network camera 1
00 ff c5 08 01 09
About
Link
Change IP
Search
Exit
Display the connected camera(s).
Double click to link the Camera.
Click About to get the Version information of IPFinder.
Click Link to connect the selected camera.
Click Change IP to modify the IP address of the selected camera.
Click Search to find the IP address of the connected camera(s).
Click Exit to close the utility.

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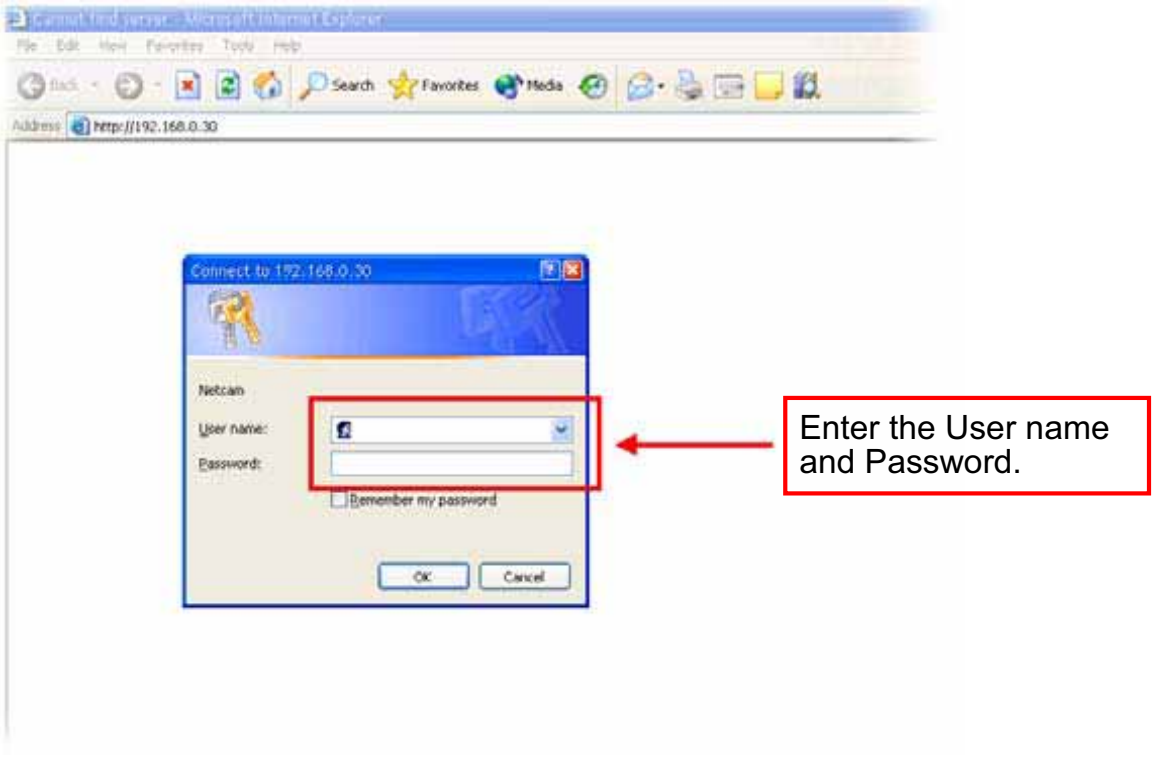
3. Once you get the IP address of the camera, launch the Web browser or UltraView to access your camera.

3.2 Accessing to the Camera

Whenever you want to access the camera:

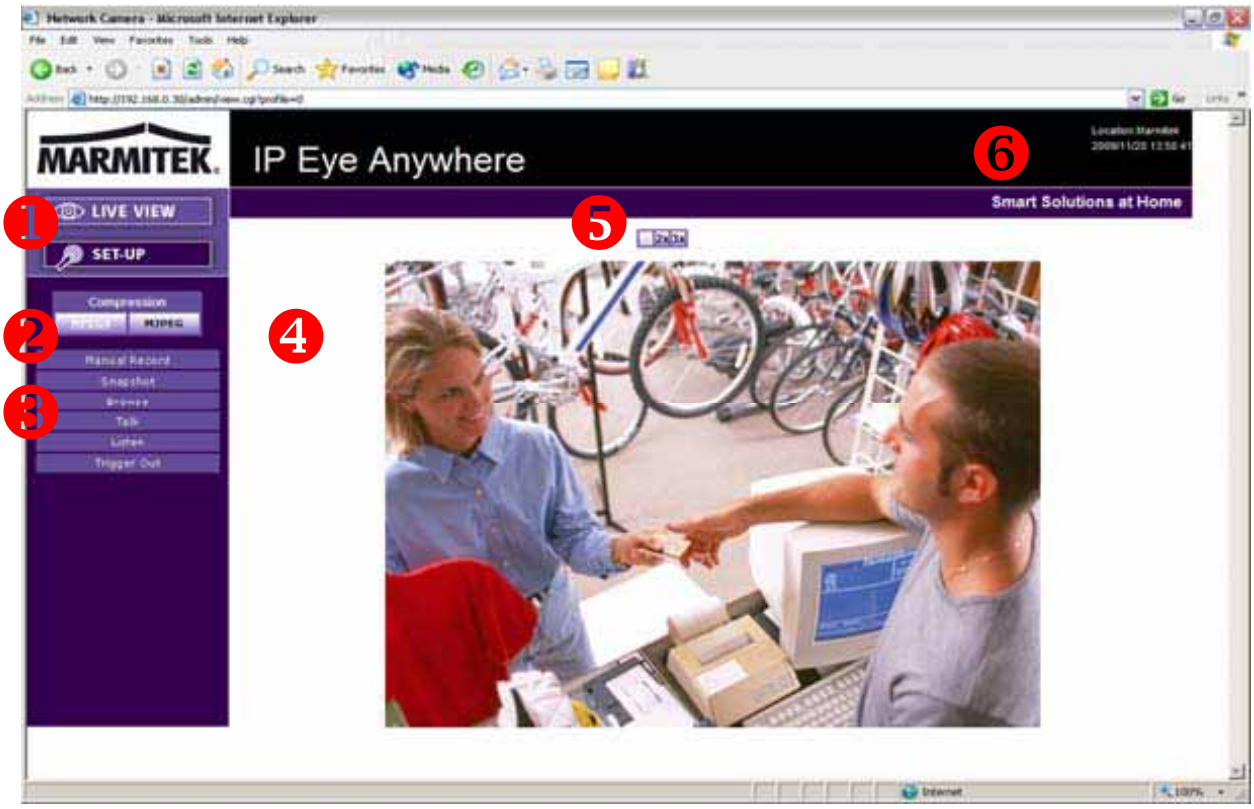
1. Since the default configuration of the camera is DHCP mode enabled, you are recommended to launch IPFinder to search the IP address that is assigned to the camera by the DHCP server, and then click **Link** to access the camera via the Web browser.
2. If Network Camera can't get IP Address under DHCP mode, the default IP Address will be 192.168.0.30.
3. When the login window appears, enter the default **User name** (admin) and **Password** (admin). Then, click the **OK** button to access to the main screen of the camera's Web Configuration.



NOTE If you are initially access to the camera, you will be ask to install a new plug-in for the camera. Permission request

depends on the Internet security settings of your computer. Click **Yes** to proceed.

After you login into the Web Configuration of the camera, the Main screen will appear as below:



The Main screen of the Web Configuration provides you with many useful information and functions, including:

1 **Live View/Setup Switch:**

- Click the SET-UP button to configure the camera. For details, see Chapter 4.
- Click the LIVE VIEW button to return to the Main screen to view the live view image.

2 **Compression Buttons:** Select to transmit and record the video using MPEG4 or MJPEG compression.

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❸ **Function Buttons:** Use these buttons to control the audio, video, and trigger functions.

- **Manual Record** allows you to record and save a video clip.
- **Snapshot** allows you to capture and save a still image.
- **Browse** allows you to assign the destination folder to store the video clips and still images.
- **Talk** allows you to speak out through the camera. Please note only one user is allowed to use this function at a time.
- **Listen** allows you to receive the on-site sound and voice from the camera.
- **Trigger Out** allows you to trigger on/off the GPIO output manually.

❹ **Live View Image:** Displays the real-time image of the connected camera.

❺ **Zoom In Buttons:** Click the

buttons to zoom in the live view image by 1x, 2x, and 3x.

❻ **Camera Information:** Displays the camera's location and the current date & time. The information can be modified in the Web Configuration.

NOTE If your PC use Microsoft Vista platform, you may not find the recorded files that are saved by **Snapshot** or **Manual Record**. You need to disable the protected mode of Security in the IE Browser through the following steps:

1. Open the Internet Explorer browser.
2. Click **Tools > Internet Options**.
3. Click **Security**.

4. Disable the **Enable Protected Mode** option and then click **OK**.

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3.3 Configuring the IP Address of the PC

If you are failed to access to the camera, please check the IP address of your computer. When you connect the camera to your computer directly to proceed with configuration of the camera, you need to set up the IP addresses to be in the same segment for the two devices to communicate.

1. On your computer, click **Start > Control Panel** to open the Control Panel window.
2. Double-click **Network Connection** to open the Network Connection window.
3. Right-click **Local Area Connection** and then click **Properties** from the shortcut menu.
4. When the Local Area Connection Properties window appears, select the **General** tab.
5. Select **Internet Protocol [TCP/IP]** and then click **Properties** to bring up the Internet Protocol [TCP/IP] Properties window.
6. To configure a fixed IP address that is within the segment of the camera, select the **Use the following IP address** option. Then, enter an IP address into the empty field. The suggested IP address is 192.168.0.x (x is 1~254 except 30), and the suggested Subnet mask is 255.255.255.0.
7. When you are finished, click **OK**.

CHAPTER 4

CONFIGURING THE CAMERA

4.1 Using the Web Configuration

You can access and manage the camera through the Web browser and the provided software application UltraView. This chapter describes the Web Configuration, and guides you through the configuration of the camera by using the web browser.

To configure the camera, click

on the Main screen of Web Configuration. The Web Configuration will start from the **Basic** page.

The Web Configuration contains the settings that are required for the camera in the left menu bar, including **Smart Wizard**, **Basic**, **Network**, **Video/Audio**, **Event Server**, **Motion detect**, **Event Config**, **Tools**, and **Information**.

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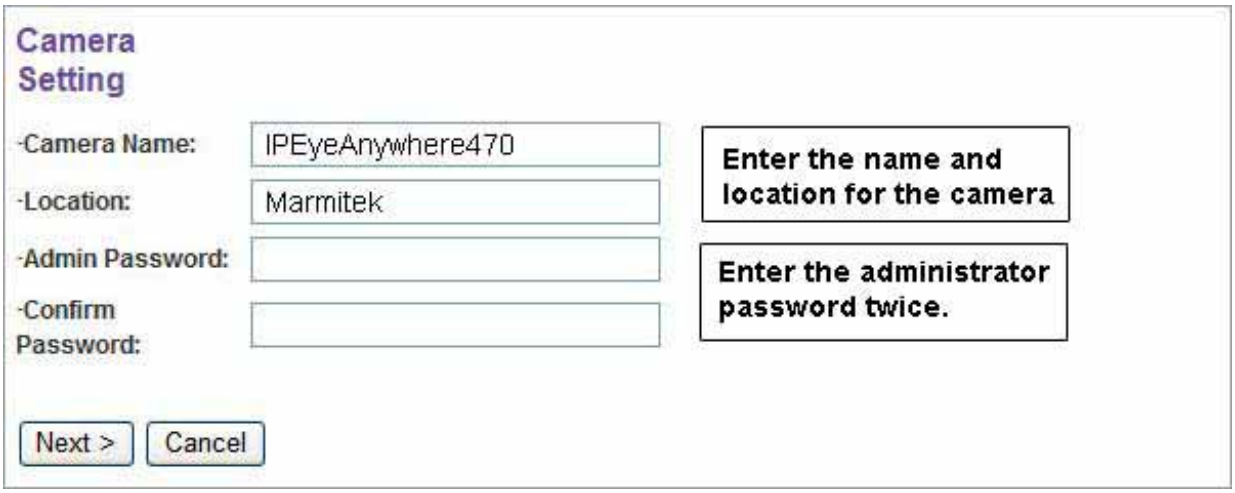
4.2 Using Smart Wizard

The camera's Smart Wizard lets you configure your camera easily and quickly. The wizard will guide you through the necessary settings with detailed instructions on each step.

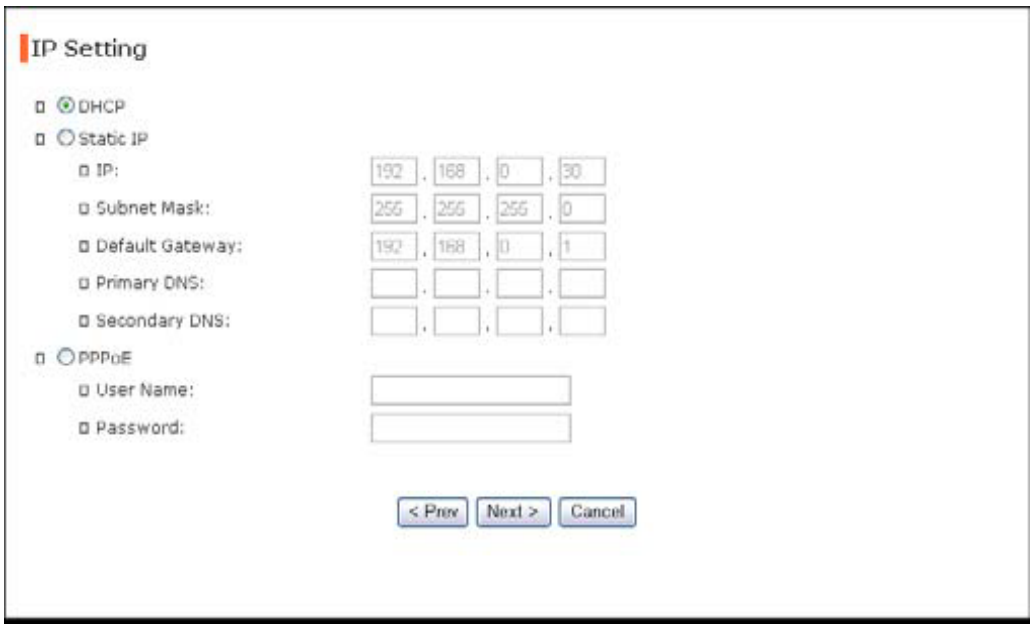
To start the wizard, click **Smart Wizard** in the left menu bar.

Step 1. Camera Setting



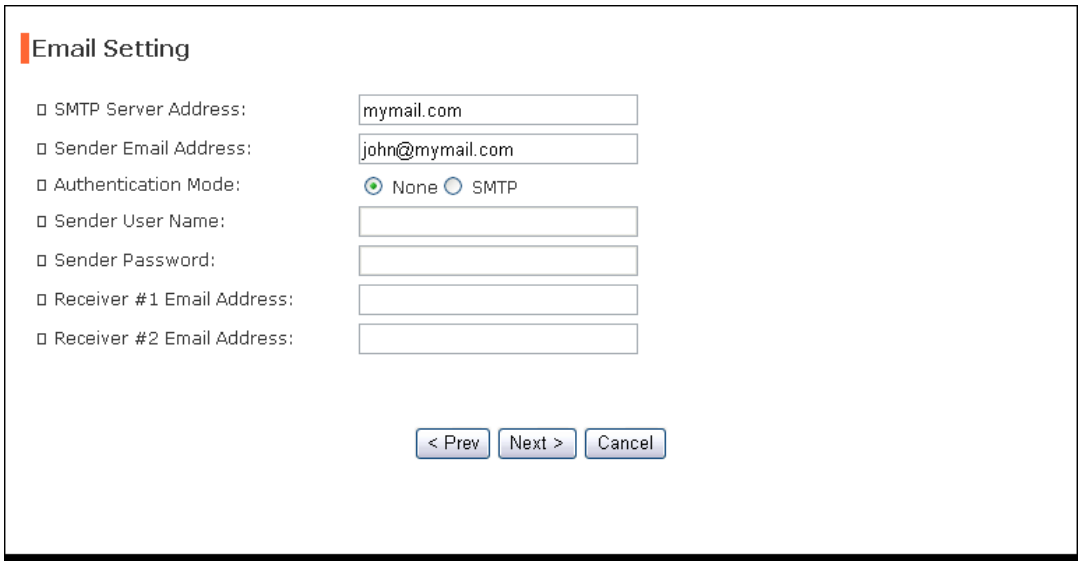
Step 2. IP Setting

Select the IP setting according to your network: **DHCP**, **Static IP**, or **PPPoE**.

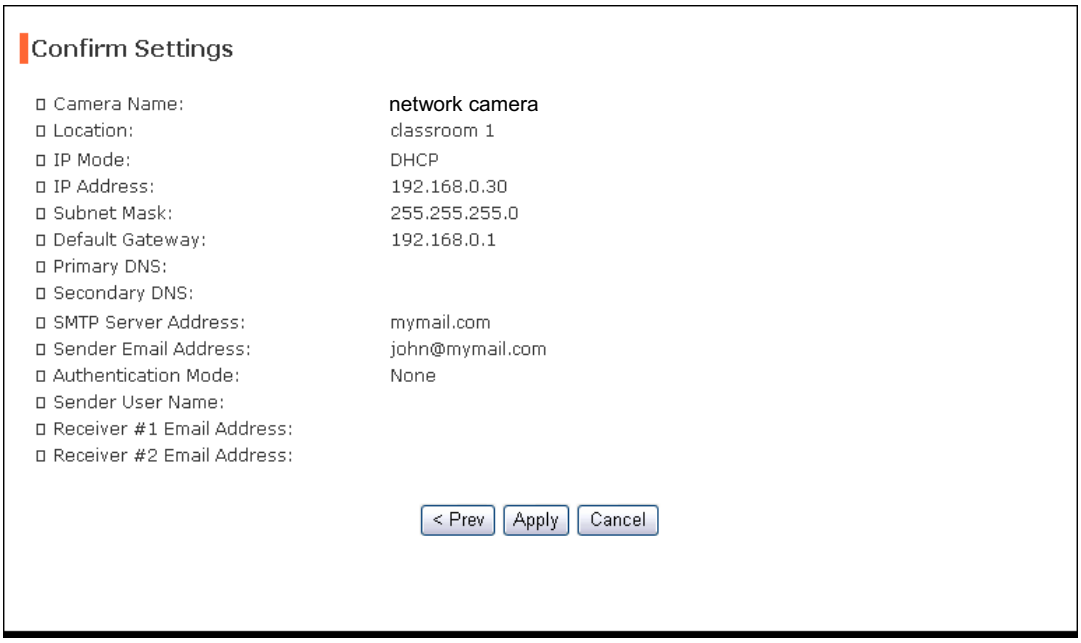


Step 3. Email Settings

Enter the required information to be able to send email with image.



Step 4. Confirm Settings



The last step shows the configuration of your camera. When you confirm the settings, click **Apply** to finish the wizard and reboot the camera. Otherwise, click **Prev** to go back to the previous step(s) and change the settings; or click **Cancel** to end the wizard and discard the changes.

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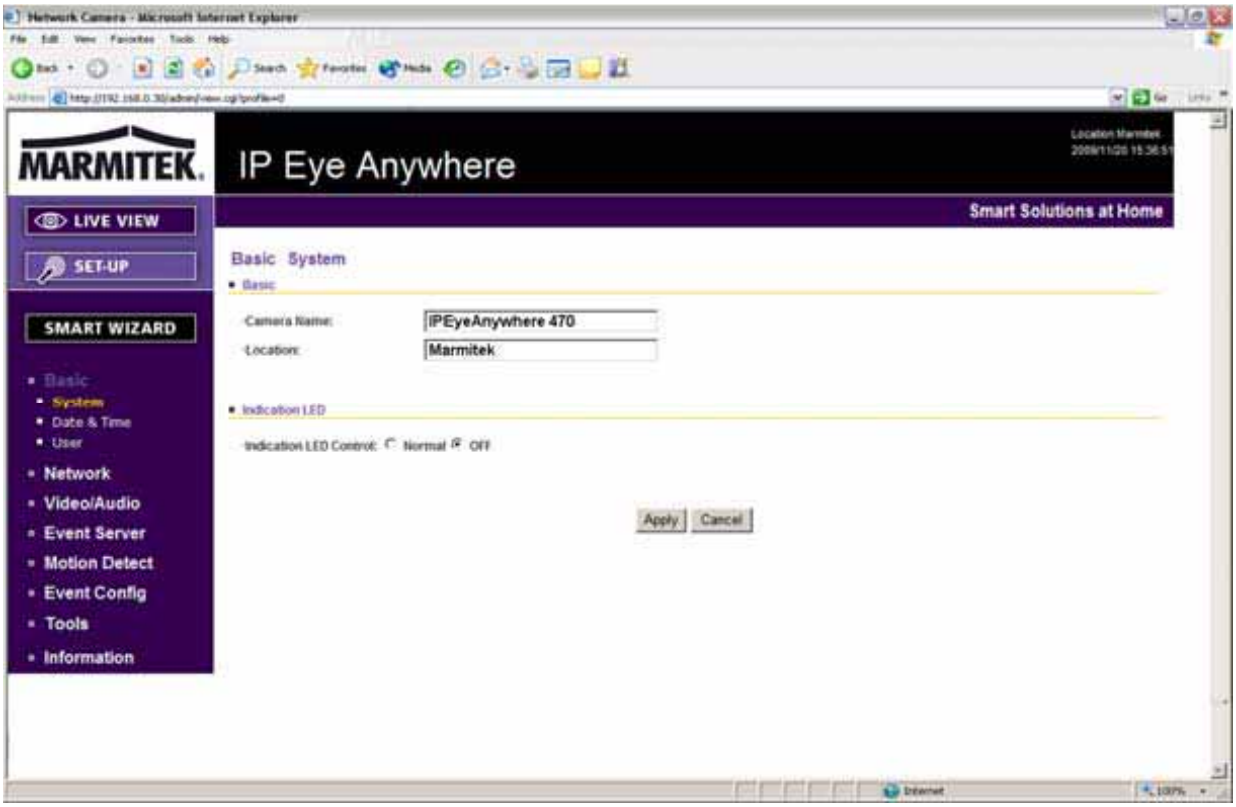
4.3 Basic Setup

The Basic menu contains three sub-menus that provide the system settings for the camera, such as the Camera Name, Location, Date & Time, and User management.



■ Basic >> System

- **Basic:** This item allows you to assign the camera name and location information.
  - **Camera Name:** Enter a descriptive name for the camera, which is helpful to identify the camera easily while multiple cameras are connected within the network.
  - **Location:** Enter a descriptive name for the location where is monitored by the camera.

- **Indication LED:** This item allows you to set the LED illumination as desired. There are two options: **Normal** and **OFF**.

■ Basic >> Date & Time

- **Date & Time:** Enter the correct date and time for the system.
  - **TimeZone:** Select the proper time zone for the region from the pull-down menu.
  - **Synchronize with PC:** Select this option and the date & time settings of the camera will be synchronized with the connected computer.
  - **Synchronize with NTP Server:** Select this option and the time will be synchronized with the NTP Server. You need to enter the IP address of the server and select the update interval in the following two boxes.
  - **Manual:** Select this option to set the **Date** and **Time** manually.

■ Basic >> User

- **Administrator:** To prevent unauthorized access to the camera's Web Configuration, you are strongly recommend to change the default administrator password. Type the administrator password twice to set and confirm the password.
- **General User**
  - **User Name:** Enter the user's name you want to add to use the camera.
  - **Password:** Enter the password for the new user.

    When you are finished, click **Add/Modify** to add the new user to the camera. To modify the user's

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information, select the one you want to modify from **UserList** and click **Add/Modify**.

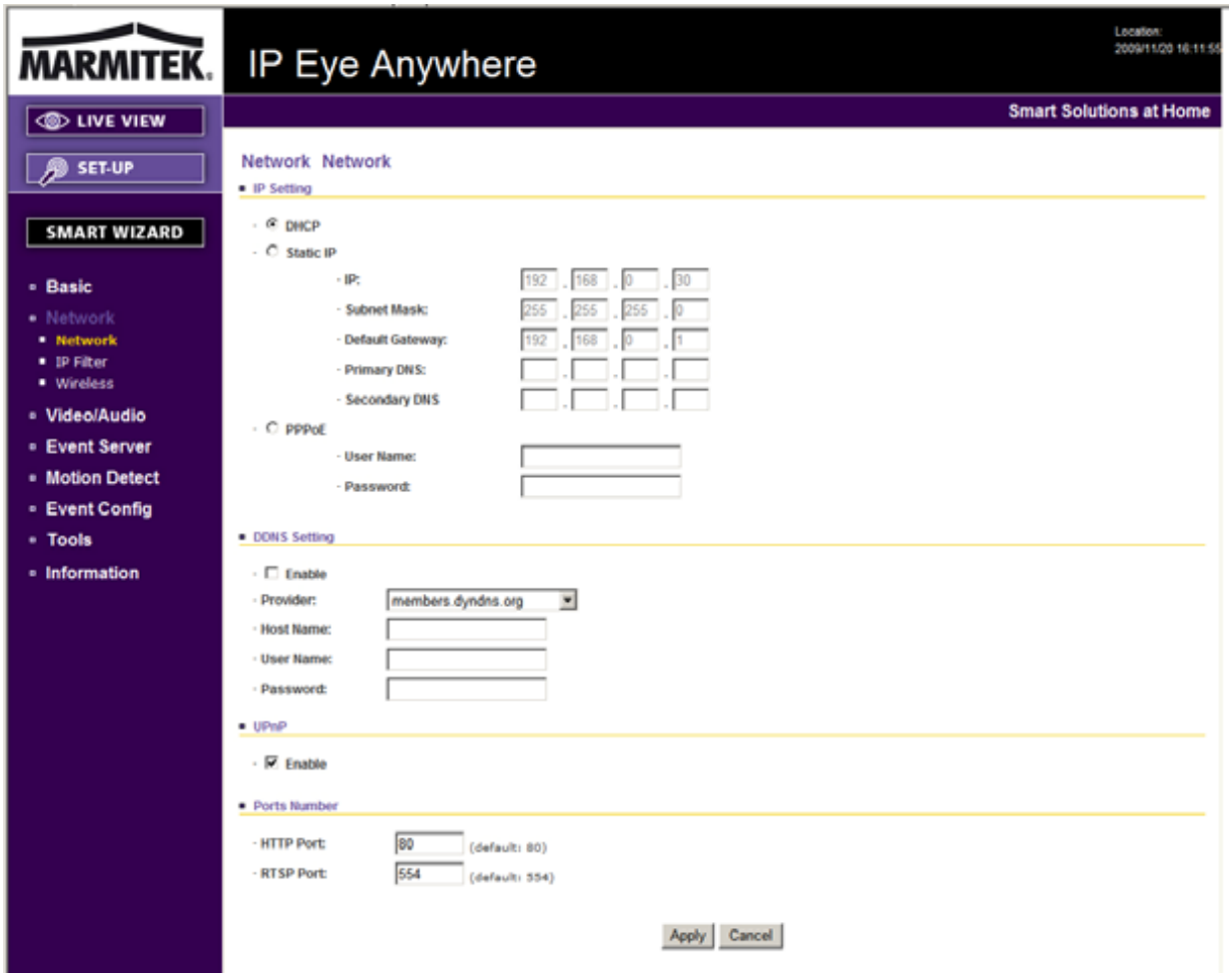
- **UserList:** Display the existing users of the camera. To delete a user, select the one you want to delete and click **Delete**.

- **Guest**
  - **User Name:** Enter the guest's name you want to add to use the camera.
  - **Password:** Enter the password for the new guest.
  - **UserList:** Display the existing guests of the camera. To delete a user, select the one you want to delete and click **Delete**.

NOTE The "General User" is allowed to access the camera and control the Function buttons on the Main screen of the Web Configuration.; the "Guest" can only view the live view image from the Main screen while accessing the camera. Only the "Administrator" is allowed to configure the camera through the Web Configuration.

4.4 Network Settings

The Network menu contains two sub-menus that provide the networking settings for the camera, such as the IP Setting, DDNS Setting, and IP Filter.



■ Network >> Network

- **IP Setting:** This item allows you to select the IP address mode and set up the related configuration.
  - **DHCP:** Select this option when your network uses the DHCP server. When the camera starts up, it will be assigned an IP address from the DHCP server automatically.

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- **Static IP:** Select this option to assign the IP address for the camera directly. You can use IPFinder to obtain the related setting values.

IP	Enter the IP address of the camera. The default setting is 192.168.0.30.
Subnet Mask	Enter the Subnet Mask of the camera. The default setting is 255.255.255.0.
Default Gateway	Enter the Default Gateway of the camera. The default setting is 192.168.0.1.
Primary/ Secondary DNS	DNS (Domain Name System) translates domain names into IP addresses. Enter the Primary DNS and Secondary DNS that are provided by ISP.

- **PPPoE:** Select this option when you use a direct connection via the ADSL modem. You should have a PPPoE account from your Internet service provider. Enter the **User Name** and **Password**. The camera will get an IP address from the ISP as starting up.

NOTE Once the camera get an IP address from the ISP as starting up, it automatically sends a notification email to you. Therefore, when you select PPPoE as your connecting type, you have to set up the email or DDNS configuration in advance.

- **DDNS Setting:** With the Dynamic DNS feature, you can assign a fixed host and domain name to a dynamic Internet IP address. To set up the DDNS:

1. Select the **Enable** option to enable this feature.
2. Select the **Provider** from the pull-down list.
3. Enter the required information in the **Host Name**, **User Name**, and **Password** boxes.

NOTE You have to sign up for DDNS service with the service provider before configuring this feature.

- **UPnP:** The camera supports UPnP (Universal Plug and Play), which is a set of computer network protocols that enable the device-to-device interoperability. In addition, it supports port auto mapping function so that you can access the camera if it is behind an NAT router or firewall.

  Select the **Enable** option to enable this feature.

- **Ports Number**
  - **HTTP Port:** The default HTTP port is **80**.
  - **RTSP Port:** Configure the transmission of streaming data within the network. The default RTSP (Real Time Streaming Protocol) port is **554**.

NOTE If the camera is behind an NAT router of firewall, the suggested to be used is from 1024 to 65535.

■ Network >> IP Filter

The IP Filter setting allows the administrator to limit the users within a certain range of IP addresses to use the camera.

To disable this feature, select the **Disable** option; otherwise, select the **Accept** option to assign the range of IP addresses that are allowed to access the camera, or select the **Deny** option to assign the range of IP addresses that are blocked to access the camera.

- **Accept**
  - **Start/End IP Address:** Assign a range of IP addresses that are allowed to access the camera by entering the **Start IP address** and **End IP address** options. When you are finished, click **Add** to save the range setting. You can repeat the action to assign multiple ranges for the camera.

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For example, when you enter 192.168.0.50 in Start IP Address and 192.168.0.80 in End IP Address, the user whose IP address located within 192.168.0.50 ~ 192.168.0.80 will not be allowed to access the camera.

- **Accept IP List:** The list displays the range setting(s) of IP addresses that are allowed to access the camera. To clear the setting, select a range of IP addresses from the list and click **Delete**.

- **Deny**
  - **Start/End IP Address:** Assign a range of IP addresses that are blocked to access the camera by entering the **Start IP address** and **End IP address** options. When you are finished, click **Add** to save the range setting. You can repeat the action to assign multiple ranges for the camera.

    For example, when you enter 192.168.0.50 in Start IP Address and 192.168.0.80 in End IP Address, the user whose IP address located within 192.168.0.50 ~ 192.168.0.80 will not be allowed to access the camera.
  - **Deny IP List:** The list displays the range setting(s) of IP addresses that are blocked to access the camera. To clear the setting, select a range of IP addresses from the list and click **Delete**.

4.5 Setting up Video & Audio

The Video & Audio menu contains four sub-menus that provide the video and audio settings for the camera.

■ Video & Audio >> Camera

● Image Setting

- **Brightness:** Adjust the brightness level from 0 ~ 100.
- **Saturation:** Adjust the colors level from 0 ~ 100.
- **Sharpness:** Adjust the sharpness level from 0 ~ 100.

  Click **Default** to restore the default settings of the three options above.
- **Mirror:** Select **Vertical** to mirror the image vertically, or select **Horizontal** to mirror the image horizontally.

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■ Video & Audio >> Video

- **MPEG4**
  - **Video Resolution:** Select the desired video resolution from the three formats: **VGA**, **QVGA**, and **QQVGA**. The higher setting (VGA) obtains better video quality while it uses more resource within your network.
  - **Video Quality:** Select the desired image quality from five levels: **Lowest**, **Low**, **Medium**, **High**, and **Highest**.
  - **Frame Rate:** Select **Auto** or a proper setting depending on your network status.
- **MJPEG**
  - **Video Resolution:** Select the desired video resolution from the three formats: **VGA**, **QVGA**, and **QQVGA**. The higher setting (VGA) obtains better video quality while it uses more resource within your network.
  - **Video Quality:** Select the desired image quality from five levels: **Lowest**, **Low**, **Medium**, **High**, and **Highest**.
  - **Frame Rate:** Select **Auto** or a proper setting depending on your network status.

NOTE The camera supports both MPEG4 and MJPEG compression. MJPEG capture the images in JPEG format, which require higher bandwidth to view smooth video. The administrator can control the bandwidth of each connection well through the setting options above.

- **3GPP:** The camera supports 3GPP specification. To disable this feature, select the **Disable** option; otherwise, select **3GPP Without Audio** or **3GPP With Audio** to transfer the video clips without or with audio.

  If you use a mobile phone that supports 3GPP, you can also view the real-time streaming image captured by the camera on your phone (with the default player on the phone) by entering the RTSP link:
  rtsp:///(IP address of the camera)/3gp.

■ Video & Audio >> Audio

- **Camera Microphone In:** Select the **Enable** option to enable the camera's audio function, so that you can receive the on-site sound and voice from the camera.
- **Camera Speaker Out:** Select the **Enable** option to enable the camera's external speaker function, so that the connected speaker can play the sound and voice through the camera.

  You can set the speaker's volume by entering the proper value in the **Volume** option. The default setting is **90**.

■ Video & Audio >> Text Overlay

- **Overlay Setting:** This option allows you to set the overlay function of the camera, so that you can see the related information on the live view image.
  - **Includes Date & Time:** Select this option to display the date & time stamp on the live view image.
  - **Include Text:** Select this option and enter your heading text in the box to display the text information on the live view image.

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- **Enable Opaque:** Select this option to set a black background to the displayed date & time stamp.

4.6 Event Server Configuration

The Event Server menu contains three sub-menus that allow you to upload images to FTP, send emails that include still images, and store the images to a NAS system.

When you complete the required settings for FTP, Email, or Network Storage, click **Test** to test the related configuration is correct or not. Once the camera connects to the server successfully, click **Apply**.

■ Event Server Setting >> FTP

● FTP

- **Host Address:** Enter the IP address of the target FTP server.
- **Port Number:** Enter the port number used for the FTP server.
- **User Name:** Enter the user name to login into the FTP server.

- **Password:** Enter the password to login into the FTP server.
- **Directory Path:** Enter the destination folder for uploading the images. For example, /Test/.
- **Passive Mode:** Select the **Enable** option to enable passive mode.
- **FTP Upload With:** Set the format of the image that is to be uploaded to the FTP server. You can set the format as **One Snapshot** or images containing **Pre-event** (0 ~ 3) seconds and **Post-event** (0 ~ 3) seconds.

■ Event Server Setting >> Email

● Email

- **SMTP Server Address:** Enter the mail server address. For example, smtp.com.
- **Sender Email Address:** Enter the email address of the user who will send the email. For example, mymail@mail.com.
- **Authentication Mode:** Select **None** to disable the authentication feature, or select **SMTP** and then enter the **User Name** and **Password** according to the mail server configuration.
- **Sender User Name:** Enter the user name to login the mail server.
- **Sender Password:** Enter the password to login the mail server.
- **Receiver #1 Email Address:** Enter the first email address of the user who will receive the email.
- **Receiver #2 Email Address:** Enter the second email address of the user who will receive the email.
- **Send Email With:** Set the format of the image that is to be sent by the email. You can set the format as **One**

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Snapshot or images containing **Pre-event** (0 ~ 3) seconds and **Post-event** (0 ~ 3) seconds.

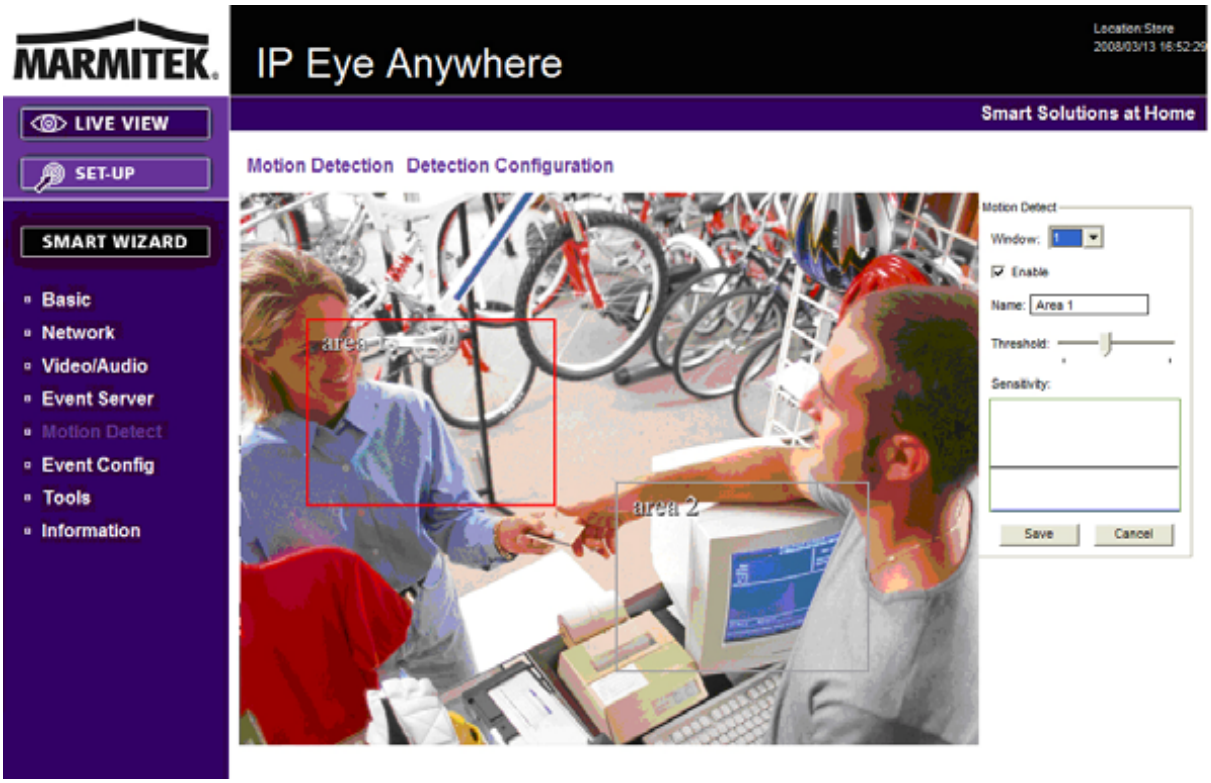
■ Event Server Setting >> Network Storage

- **Network Storage**
  - **Samba Server Address:** Enter the IP address of the Network Storage server.
  - **Share:** Assign the folder on the Network Storage server to share the files to users.
  - **Path:** Assign the path for uploading the files on the Network Storage server. For example, /Test/.
  - **User Name:** Enter the user name to login into the Network Storage server.
  - **Password:** Enter the password to login into the Network Storage server.
  - **Split By:** When the file is too large to upload smoothly, use this option to split it by selecting **File Size** or **Recording Time**.
  - **When Disk Full:** Select **Stop Recording** or **Recycle – Delete Oldest Folder** when the storage space on the Network Storage server is full.

4.7 Motion Detect

The Motion Detect menu contains the command and option that allow you to enable and set up the motion detection feature of the camera. The camera provides two detecting areas.

To enable the detecting area, select **Window 1** or **2** from the pull-down list, and then select **Enable**. When the detecting area is enabled, you can use the mouse to move the detecting area and change the area coverage.



- **Name:** Assign a name to the detecting area.
- **Threshold:** Move the slide bar to adjust the level for detecting motion to record video.

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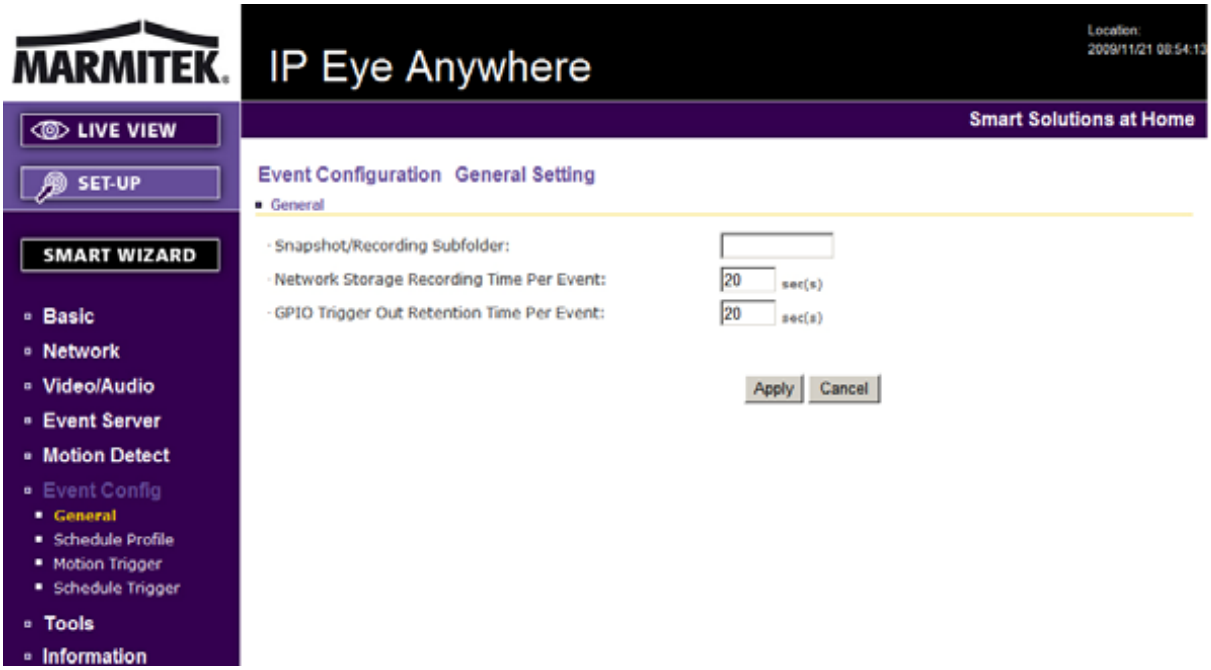
4.8 Event Config

The Event Config menu contains five sub-menus that provide the commands to configure event profiles.



■ Event Configuration >> General Setting

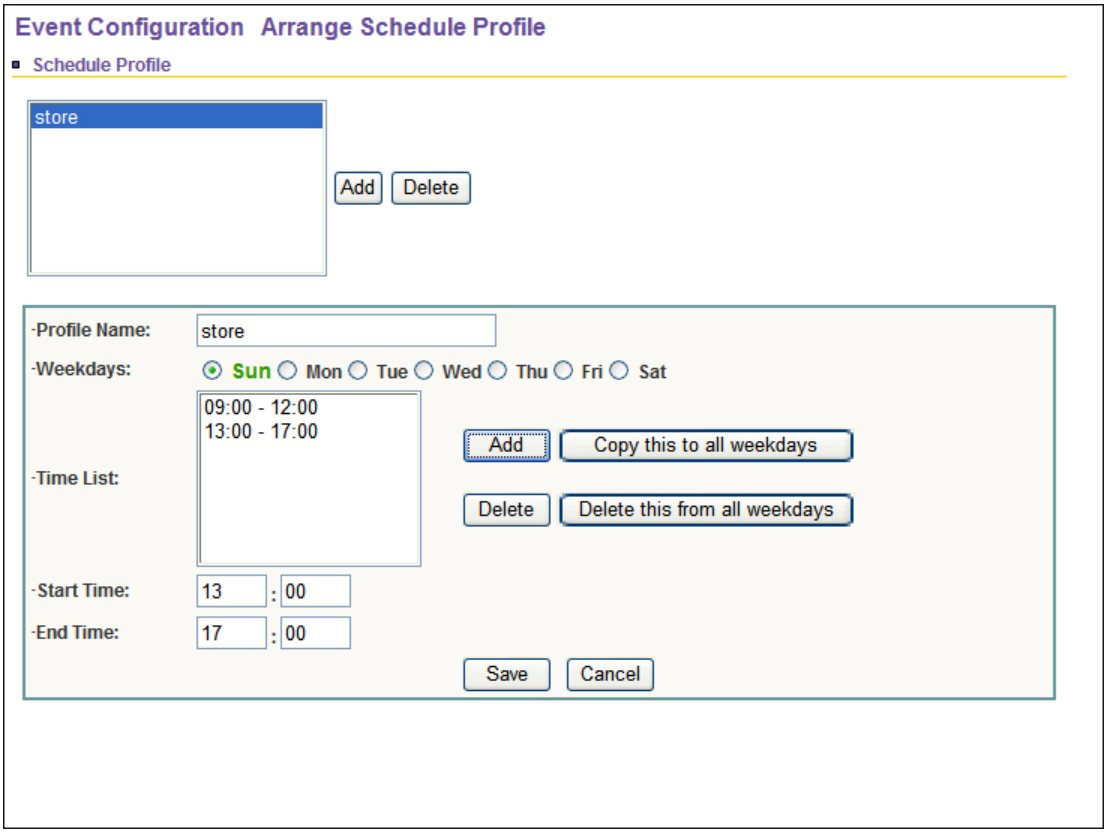
- **General**
  - **Snapshot/Recording Subfolder:** You can assign a given subfolder to each new captured file. Otherwise, leave this option blank to use the default setting.
  - **Network Storage Recording Time Per Event:** Limit the recording time while you are using the Network Storage solution.
  - **GPIO Trigger Out Retention Time Per Event:** Limit the retention time of the GPIO Trigger Out function.

■ Event Configuration >> Arrange Schedule Profile

- **Schedule Profile:** This sub-menu displays the scheduled profile(s). To customize the profile, click **Add** and then enter a descriptive name for the profile in the prompt dialog

window. After entering the profile name, click **OK** and the profile is added to the Schedule Profiles list.

To delete the profile, select the profile in the list and click **Delete**.



- **Profile Name:** Display the profile name that you select in the Schedule Profiles list.
- **Weekdays:** Select the weekday(s) that you want to separately assign in the schedule profile. The weekday that has been assigned will be displayed with green color.
- **Time List:** Display the time period that you have assigned within the selected weekday. To assign the same time period to every weekday, click **Add this to all weekdays**; click **Delete this from all weekdays** to remove the selected time period from every weekday. Click Delete to remove the selected time period.

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- **Start/End Time:** Enter the start and end time and then click **Add** to assign a time period within in the selected weekday.

Event Configuration >> Motion Detect Trigger

- **Schedule Profile:** Select the **Enable** option to enable the trigger function of the camera, so that you can send captured images within the detecting area to the FTP server, email receiver, or the Network Storage server. You have to configure corresponding settings, such as FTP server and email server, to enable this feature. Please note that you have to configure the related settings before enabling these features.
  - **Schedule Profile:** Select a schedule profile from the pull-down list.
  - **Action:** Select the destination that the captured images will be sent to: **Trigger Out**, **Record to Network Storage**, **Send Email**, and **FTP Upload**.

Event Configuration >> Schedule Trigger

You can separately configure the schedule for trigger function of the camera by **Email**, **FTP**, or **Network Storage**. Select the **Enable** option on each item, and then select a **Schedule Profile** from the pull-down list and set the **Interval** time.

NOTE If the setting value of the **Network Storage Recording Time Per Event** option in General Setting is longer than the **Interval** time in Network Storage Schedule, the recorded file will be a continuous video clip.

For example, if you set the **Network Storage Recording Time Per Event** as 10 seconds and the **Interval** as 5 seconds, recorded file becomes a non-stop video clip because the camera will record a 10-second video clip every 5 seconds.

■ Event Configuration >> GPIO Trigger

The GPIO trigger function of the camera allows you to set Trigger Out function or send captured images within the detecting area to the Network Storage server, email receiver, or FTP server. You have to configure corresponding settings, such as FTP server and email server, to enable this feature.

- **Enable Trigger In 1/2:** Select the option to enable the GPIO trigger function of the camera. Then, complete the following options
  - **Schedule Profile:** Select a schedule profile (**Always**, or the profile you have set) from the pull-down list.
  - **Action:** Select the **Trigger Out** function or select the destination of the captured image (**Record to Network Storage**, **Send Email**, or **FTP Upload**).

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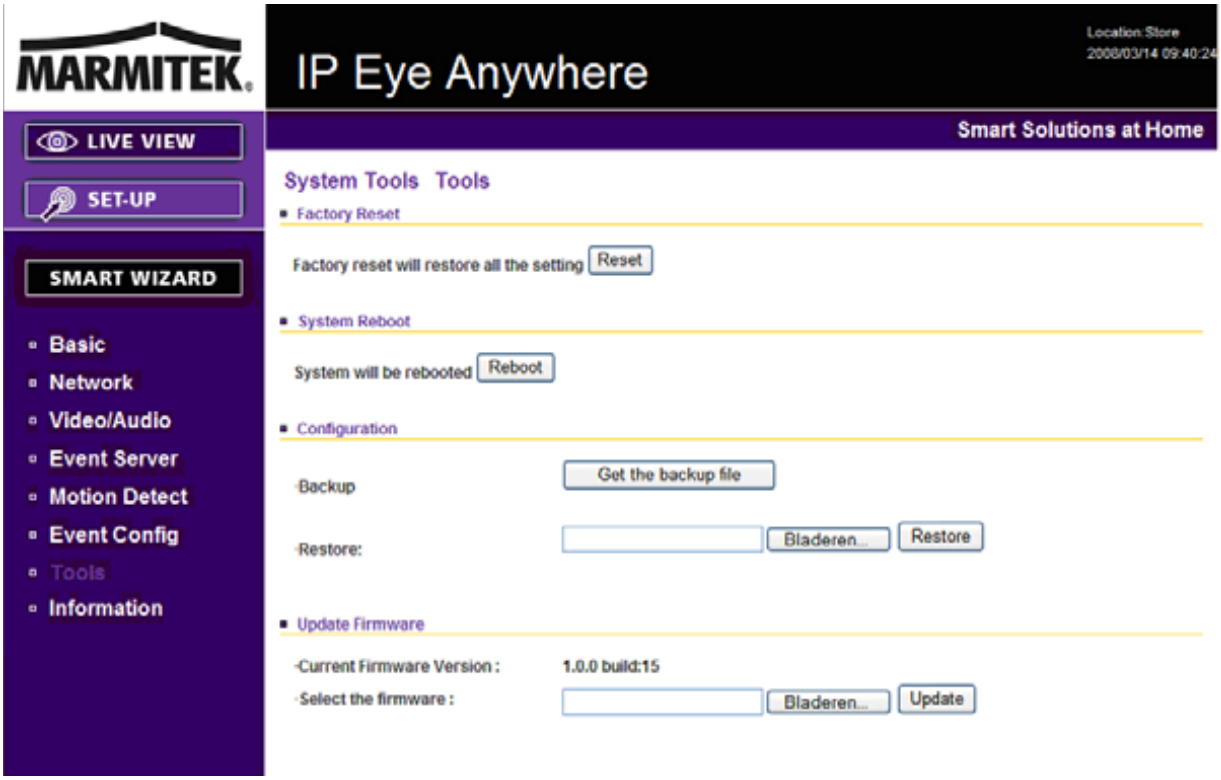
4.9 Tools

The Tools menu provides the commands that allow you to restart or reset the camera. You can also backup and restore your configuration, and upgrade the firmware for the camera.



- **Factory Reset:** Click **Reset** to restore all factory default settings for the camera.
- **System Reboot:** Click **Reboot** to restart the camera just like turning the device off and on. The configuration of the camera will be retained after rebooting.
- **Configuration:** You can save your camera configuration as a backup file on your computer. Whenever you want to resume the original settings, you can restore them by retrieving the backup file.
  - **Backup:** Click **Get the backup file** to save the current configuration of the camera.

- **Restore:** Click **Browse** to locate the backup file and then click **Restore**.
- **Update Firmware:** You can upgrade the firmware for your camera once you obtained a latest version of firmware.
- **Current Firmware Version:** This item displays the current firmware version.
- **Select the firmware:** Click **Browse** to locate the backup file and then click **Update**.

NOTE Make sure to keep the camera connected to the power source during the process of upgrading firmware. Otherwise, the camera might be damaged because of failure of upgrading firmware.

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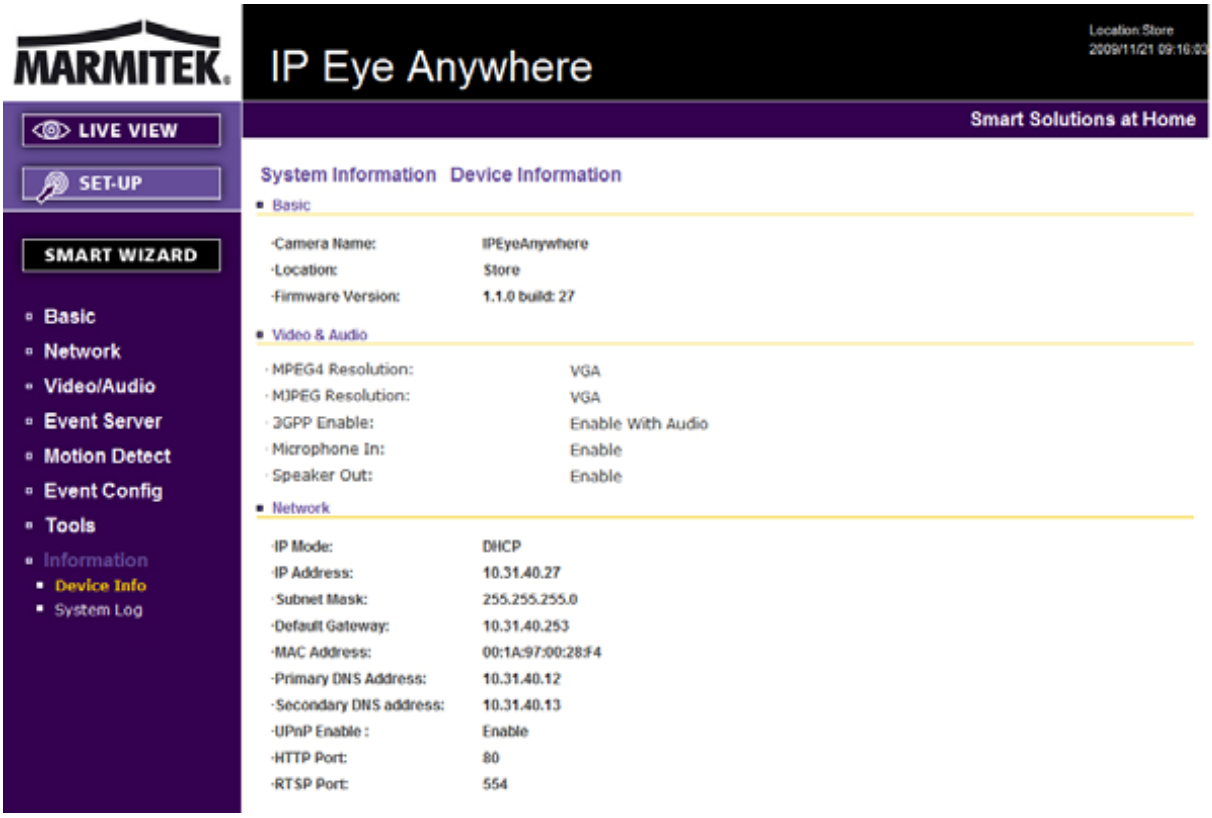
4.10 Information

The Information menu displays the current configuration and events log of the camera.



■ Information >> Device Info

Display the Basic, Video & Audio, and Network settings of the camera.

■ Information >> System Log

The Logs table displays the events log recorded by the system.

CHAPTER 5

APPENDIX

A.1 Specification

- **System Hardware**
  - **Processor** ARM9 base
  - **RAM** 32MB SDRAM
  - **ROM** 8MB NOR Flash
  - **Power** DC 12V

- **Image Sensor**
  - **Sensor** 1/4” Low Lux CMOS sensor; Minimum illumination @ 0.1 LUX
  - **Resolution** 640 x 480

- **Lens Assembly**
  - **Lens Type** Board Lens
  - **Aperture (F/No.)** 2.0
  - **Focus Length** 4.2 mm
  - **View Angle** (Diagonal) 60 degree

- **Video**
  - **Compression** MPEG4/MJPEG
  - **Exposure Control** Auto
  - **White Balance** Auto
  - **Gain control** Auto

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- **Video Resolution** VGA/QVGA/QQVGA; 30 fps max.

- **Communication**
  - **LAN** 10/100Mbps Fast Ethernet, auto-sensed; Auto-MDIX
  - **Protocol** TCP/IP, UDP, ICMP, DHCP, NTP, DNS, DDNS, SMTP, FTP, HTTP, Samba, PPPoE, UPnP, Bonjour, RTP, RTSP, RTCP

- **User Interface**
  - **LAN** One RJ-45 port
  - **Reset** One Reset button
  - **GPIO** 2 in / 1 out
  - **TV Out** BNC connecter, 1 Vp-p, 75 Ohms
  - **Switches** One Power LED switch; One Link LED switch
  - **LEDs** One Power LED (amber); One Link LED (green)

- **Audio**
  - **Input** External microphone jack
  - **Output** Headphone output jack (Mono)
  - **Codec** PCM/AMR (AMR is for 3GPP only)

- **Software**
  - **OS Support** Windows 2000/XP/Vista/7
  - **Browser** Internet Explorer 6.0 or above
  - **Software** UltraView for playback/recording/ configuration features

- **Operating Environment**
  - **Temperature** Operation: 0°C ~ 45°C;
    Storage: -15°C ~ 60°C
  - **Humidity** Operation: 20% ~ 85% non-condensing;
    Storage: 0% ~ 90% non-condensing

- **EMI**
  FCC Class B, CE Class B

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A.2 Glossary of Terms

NUMBERS

10BASE-T 10BASE-T is Ethernet over UTP Category III, IV, or V unshielded twisted-pair media.

100BASE-TX The two-pair twisted-media implementation of 100BASE-T is called 100BASE-TX.

A

ADPCM Adaptive Differential Pulse Code Modulation, a new technology improved from PCM, which encodes analog sounds to digital form.

AMR AMR (Adaptive Multi-Rate) is an audio data compression scheme optimized for speech coding, which is adopted as the standard speech codec by 3GPP.

Applet Applets are small Java programs that can be embedded in an HTML page. The rule at the moment is that an applet can only make an Internet connection to the computer form that the applet was sent.

ASCII American Standard Code For Information Interchange, it is the standard method for encoding characters as 8-bit sequences of binary numbers, allowing a maximum of 256 characters.

ARP Address Resolution Protocol. ARP is a protocol that resides at the TCP/IP Internet layer that delivers data on the same network by translating an IP address to a physical address.

AVI Audio Video Interleave, it is a Windows platform audio and video file type, a common format for small movies and videos.

B

BOOTP Bootstrap Protocol is an Internet protocol that can automatically configure a network device in a diskless workstation to give its own IP address.

C

Communication Communication has four components: sender, receiver, message, and medium. In networks, devices and application tasks and processes communicate messages to each other over media. They represent the sender and receivers. The data they send is the message. The cabling or transmission method they use is the medium.

Connection In networking, two devices establish a connection to communicate with each other.

D

DHCP Developed by Microsoft, DHCP (Dynamic Host Configuration Protocol) is a protocol for assigning dynamic IP addresses to devices on a network. With dynamic addressing, a device can have a different IP address every time it connects to the network. In some systems, the device's IP address can even change while it is still connected. It also supports a mix of static and dynamic IP addresses. This simplifies the task for network administrators because the software keeps track of IP addresses rather than requiring an administrator to manage the task. A new computer can be added to a network without the hassle of manually assigning it a unique IP address. DHCP allows the specification for the service provided by a router, gateway, or other network device that automatically assigns an IP address to any device that requests one.

DNS Domain Name System is an Internet service that translates domain names into IP addresses. Since domain names are alphabetic, they're easier to

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remember. The Internet however, is really based on IP addresses every time you use a domain name the DNS will translate the name into the corresponding IP address. For example, the domain name *www.network_camera.com* might translate to *192.167.222.8*.

E

Enterprise network An enterprise network consists of collections of networks connected to each other over a geographically dispersed area. The enterprise network serves the needs of a widely distributed company and operates the company's mission-critical applications.

Ethernet The most popular LAN communication technology. There are a variety of types of Ethernet, including 10Mbps (traditional Ethernet), 100Mbps (Fast Ethernet), and 1,000Mbps (Gigabit Ethernet). Most Ethernet networks use Category 5 cabling to carry information, in the form of electrical signals, between devices. Ethernet is an implementation of CSMA/CD that operates in a bus or star topology.

F

Fast Ethernet Fast Ethernet, also called 100BASE-T, operates at 10 or 100Mbps per second over UTP, STP, or fiber-optic media.

Firewall Firewall is considered the first line of defense in protecting private information. For better security, data can be encrypted. A system designed to prevent unauthorized access to or from a private network. Firewalls are frequently used to prevent unauthorized Internet users from accessing private networks connected to the Internet, especially Intranets all messages entering or leaving the intranet pass through the firewall, which examines each message and blocks those that do not meet the specified security criteria.

G

Gateway A gateway links computers that use different data formats together.

Group Groups consist of several user machines that have similar characteristics such as being in the same department.

H

HEX Short for hexadecimal refers to the base-16 number system, which consists of 16 unique symbols: the numbers 0 to 9 and the letters A to F. For example, the decimal number 15 is represented as F in the hexadecimal numbering system. The hexadecimal system is useful because it can represent every byte (8 bits) as two consecutive hexadecimal digits. It is easier for humans to read hexadecimal numbers than binary numbers.

I

Intranet This is a private network, inside an organization or company that uses the same software you will find on the public Internet. The only difference is that an Intranet is used for internal usage only.

Internet The Internet is a globally linked system of computers that are logically connected based on the Internet Protocol (IP). The Internet provides different ways to access private and public information worldwide.

Internet address To participate in Internet communications and on Internet Protocol-based networks, a node must have an Internet address that identifies it to the other nodes. All Internet addresses are IP addresses

IP Internet Protocol is the standard that describes the layout of the basic unit of information on the Internet (the *packet*) and also details the numerical addressing format used to route the information. Your Internet service provider controls the IP address of any device it connects to the Internet. The IP addresses in your

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network must conform to IP addressing rules. In smaller LANs, most people will allow the DHCP function of a router or gateway to assign the IP addresses on internal networks.

IP address IP address is a 32-binary digit number that identifies each sender or receiver of information that is sent in packets across the Internet. For example 80.80.80.69 is an IP address. When you “call” that number, using any connection methods, you get connected to the computer that “owns” that IP address.

ISP ISP (Internet Service Provider) is a company that maintains a network that is linked to the Internet by way of a dedicated communication line. An ISP offers the use of its dedicated communication lines to companies or individuals who can’t afford the high monthly cost for a direct connection.

J

JAVA Java is a programming language that is specially designed for writing programs that can be safely downloaded to your computer through the Internet without the fear of viruses. It is an object-oriented multi-thread programming best for creating applets and applications for the Internet, Intranet and other complex, distributed network.

L

LAN Local Area Network a computer network that spans a relatively small area sharing common resources. Most LANs are confined to a single building or group of buildings.

M

MJPEG MJPEG (Motion JPEG) composes a moving image by storing each frame of a moving picture sequence in JPEG compression, and then decompressing and displaying each frame at rapid speed to show the moving picture.

MPEG4 MPEG4 is designed to enable transmission and reception of high-quality audio and video over the Internet and next-generation mobile telephones.

N

NAT Network Address Translator generally applied by a router that makes many different IP addresses on an internal network appear to the Internet as a single address. For routing messages properly within your network, each device requires a unique IP address. But the addresses may not be valid outside your network. NAT solves the problem. When devices within your network request information from the Internet, the requests are forwarded to the Internet under the router's IP address. NAT distributes the responses to the proper IP addresses within your network.

Network A network consists of a collection of two or more devices, people, or components that communicate with each other over physical or virtual media. The most common types of network are:

LAN – (local area network): Computers are in close distance to one another. They are usually in the same office space, room, or building.

WAN – (wide area network): The computers are in different geographic locations and are connected by telephone lines or radio waves.

NWay Protocol A network protocol that can automatically negotiate the highest possible transmission speed between two devices.

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P

PCM PCM (Pulse Code Modulation) is a technique for converting analog audio signals into digital form for transmission.

PING Packet Internet Groper, a utility used to determine whether a specific IP address is accessible. It functions by sending a packet to the specified address and waits for a reply. It is primarily used to troubleshoot Internet connections.

PPPoE Point-to-Point Protocol over Ethernet. PPPoE is a specification for connecting the users on an Ethernet to the Internet through a common broadband medium, such as DSL or cable modem. All the users over the Ethernet share a common connection.

Protocol Communication on the network is governed by sets of rules called protocols. Protocols provide the guidelines devices use to communicate with each other, and thus they have different functions. Some protocols are responsible for formatting and presenting and presenting data that will be transferred from file server memory to the file server's net work adapter Others are responsible for filtering information between networks and forwarding data to its destination. Still other protocols dictate how data is transferred across the medium, and how servers respond to workstation requests and vice versa. Common network protocols responsible for the presentation and formatting of data for a network operating system are the Internetwork Packet Exchange (IPX) protocol or the Internet Protocol (IP). Protocols that dictate the format of data for transferors the medium include token-passing and Carrier Sense Multiple Access with Collision Detection (CSMA/CD), implemented as token-ring, ARCNET, FDDI, or Ethernet. The Router Information Protocol (RIP),a part of the Transmission Control Protocol/Internet Protocol (TCP/IP) suite, forwards packets from one network to another using the same network protocol.

R

RJ-45 RJ-45 connector is used for Ethernet cable connections.

Router A router is the network software or hardware entity charged with routing packets between networks.

RTP RTP (Real-time Transport Protocol) is a data transfer protocol defined to deliver **live media** to the clients at the same time, which defines the transmission of video and audio files in real time for Internet applications.

RTSP RTSP (Real-time Streaming Protocol) is the standard used to transmit **stored media** to the client(s) at the same time, which provides client controls for random access to the content stream.

S

Server It is a simple computer that provides resources, such as files or other information.

SIP SIP (Session Initiated Protocol) is a standard protocol that delivers the real-time communication for Voice over IP (VoIP), which establishes sessions for features such as audio and video conferencing.

SMTP The Simple Mail Transfer Protocol is used for Internet mail.

SNMP Simple Network Management Protocol. SNMP was designed to provide a common foundation for managing network devices.

Station In LANs, a station consists of a device that can communicate data on the network. In FDDI, a station includes both physical nodes and addressable logical devices. Workstations, single-attach stations, dual-attach stations, and concentrators are FDDI stations.

Subnet mask In TCP/IP, the bits used to create the subnet are called the subnet mask.

T

(TCP/IP) Transmission Control Protocol/Internet Protocol is a widely used transport protocol that connects diverse

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	computers of various transmission methods. It was developed y the Department of Defense to connect different computer types and led to the development of the Internet.
Transceiver	A transceiver joins two network segments together. Transceivers can also be used to join a segment that uses one medium to a segment that uses a different medium. On a 10BASE-5 network, the transceiver connects the network adapter or other network device to the medium. Transceivers also can be used on 10BASE-2 or 10BASE-T networks to attach devices with AUI ports.

U

UDP	The User Datagram Protocol is a connectionless protocol that resides above IP in the TCP/IP suite
User Name	The USERNAME is the unique name assigned to each person who has access to the LAN.
Utility	It is a program that performs a specific task.
UTP	Unshielded twisted-pair. UTP is a form of cable used by all access methods. It consists of several pairs of wires enclosed in an unshielded sheath.

W

WAN	Wide-Area Network. A wide-area network consists of groups of interconnected computers that are separated by a wide distance and communicate with each other via common carrier telecommunication techniques.
WEP	WEP is widely used as the basic security protocol in Wi-Fi networks, which secures data transmissions using 64-bit or 128-bit encryption.
Windows	Windows is a graphical user interface for workstations that use DOS.
WPA	WPA (Wi-Fi Protected Access) is used to improve the security of Wi-Fi networks, replacing the current WEP

	standard. It uses its own encryption, Temporal Key Integrity Protocol (TKIP), to secure data during transmission.
WPA2	Wi-Fi Protected Access 2, the latest security specification that provides greater data protection and network access control for Wi-Fi networks. WPA2 uses the government-grade AES encryption algorithm and IEEE 802.1X-based authentication, which are required to secure large corporate networks.

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